



Patent & Trademark Office Docket No. 19898/13

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

5 In re application of: Gordon, Scott.

Serial No.: 08/885,698 Group No.: 2731

Filed: June 30, 1997 Examiner: Steven Nguyen

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For: AUDIBLE COMMUNICATION WITH A MODEM OVER A WIDE AREA
NETWORK

Assistant Commissioner for Patents

15 **Washington, D.C. 20231**

ATTENTION: Board of Patent Appeals and Interferences

APPELLANTS' BRIEF (37 C.F.R. 1.192)

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- This brief is in furtherance of the Notice of Appeal, filed in this case on August 7, 2000.
- The fees required under § 1.17(c), and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.
- 25 • This brief is transmitted in triplicate. (37 C.F.R. 1.192(a))
- This brief contains the following items under the following headings, and in the order set forth

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below (37 C.F.R. 1.192(c)):

- I. REAL PARTY IN INTEREST
- II. RELATED APPEALS AND INTERFERENCES
- III. STATUS OF CLAIMS
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- IX. APPENDIX: CLAIMS INVOLVED IN THE APPEAL

The final page of the arguments bears the practitioner's signature.

I. REAL PARTIES IN INTEREST (37 C.F.R. 1.192(c)(1))

The real party in interest in this appeal is the following party: EMC Corporation, as the assignee of record on the original filing date of the application.

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II. RELATED APPEALS AND INTERFERENCES (37 C.F.R. 1.192(c)(2))

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal there are no such appeals or interferences.

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III. STATUS OF CLAIMS (37 C.F.R. 1.192(c)(3))

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims in the application are: 1, 4-10, and 12-23

B. STATUS OF ALL THE CLAIMS IN APPLICATION

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1. Claims canceled: 2, 3, 11
2. Claims withdrawn from consideration but not canceled: NONE
3. Claims pending: 1, 4-10, and 12-23
4. Claims allowed: NONE
5. Claims rejected: 1, 4-10, and 12-23.

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C. CLAIMS ON APPEAL

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The claims on appeal are: 1, 4-10, and 12-23.

IV. STATUS OF AMENDMENTS (37 C.F.R. 1.192(c)(4))

An amendment to claims 8, 19 and 20, filed in response to the Final Rejection of the claims has
5 not been entered by the Examiner, for the reasons presented in the Advisory Action of August 22,
2000, Paper 14. No other amendments have been submitted after the Final Rejection.

V. SUMMARY OF INVENTION (37 C.F.R. 1.192(c)(5))

The present invention involves a method and apparatus that provides an audio bypass channel
10 between a telephone interface of a remote modem and a local monitoring station. Telephone
signals at the remote modem are converted to audio signals, digitized, sent over a LAN, converted
back into audio and played at a local monitoring station through an acoustic loudspeaker for an
operator to hear.

This arrangement permits a user to overcome the limitations of the typical modem in which the
15 telephone signal contains modulated data signals between the corresponding modems, but only data
signals between the remote modem and the local server on the LAN. The invention supplements
diagnostic service of remote telephone circuits (and remote modem racks) where the modems have
no inherent bypass channel in which the analog signal can be communicated with a monitoring
center on the digital side of the modem.

20 In a typical modem rack arrangement, a plurality of modems are arranged to convert between
telephone signals and data signals, and the data signals are managed by an access server on a LAN.
When a telephone connection failure is suspected, a maintenance technician must either travel to
the modem or telephone circuit location with appropriate diagnostic monitoring tools, or rely upon
modem vendors to provide some digitized diagnostic information through a proprietary modem

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monitoring system. These limitations increase the cost of equipment or maintenance or both, because of increased training, tooling, and travel.

By using the present invention, implemented with a telephone signal converter, existing LAN connections, and commercial-off-the-shelf PC components, a technician at a central monitoring site can "listen in" on the telephone side of a faulty remote modem, or even generate audio test signals to the remote telephone circuit. Furthermore, because the telephone signals are converted and carried over a LAN that may bridge long distances at fixed cost, the central technician can use the invention to initiate or answer remote telephone calls at the remote modem pool rather than incur the additional circuit charges for the distance between the modem pool and the central station.

VI. ISSUES (37 C.F.R. 1.192(c)(6))

The first issue under appeal is whether the Examiner's rejection of claims 1, 5, 6, 8, 10, 12-15, 17, 19, 20 and 23 under 35 USC § 103(a) as being unpatentable over Focsaneanu in view of Huang, is proper.

The second issue under appeal is whether the Examiner's rejection of claims 4, 7, 9, 16, 18, 21 and 22 under 35 USC § 103(a) as being unpatentable over Focsaneanu, Huang, and further in view of Krishnaswamy, is proper.

The third issue under appeal is whether the Examiner's rejection of claims 8 and 19-23 under 35 USC § 112, first paragraph, is proper.

The fourth issue under appeal is whether the Examiner's rejection of claim 19 under 35 USC § 112, second paragraph, is proper.

Appellants appeal the rejections as improper and requests that the claims be allowed and the case passed to issue.

VII. GROUPING OF CLAIMS (37 C.F.R. 1.192(c)(7))

Claim 1 and its dependent claims 2 through 7 are separately patentable.

Claim 8 and its dependent claims 9 through 18 are separately patentable.

Claim 19 and its dependent claims 20 through 23 are separately patentable.

**VIIIA. ARGUMENTS: REJECTION OF CLAIMS 1, 5, 6, 8, 10, 12-15, 17, 19, 20 AND
23 UNDER 35 U.S.C. 103(a) (37 C.F.R. 1.192(c)(8)(iv))**

In the Official Action, Paper 11, dated June 5, 2000, made Final, the Examiner rejected claims 1, 5, 6, 8, 10, 12-15, 17, 19, 20 and 23 under 35 USC § 103(a) as being unpatentable over Focsaneanu (USP 5991292) in view of Huang (PCT WO 97/23078). This rejection was issued after Applicant had already overcome a similar rejection, issued in Paper 8, December 28, 1999, of claims 1-2, 4-18. The initial rejections were based on combinations of Krishnaswamy in view of Iwami, and Huang in view of Solomon. In the Advisory Action of Paper 14, mailed August 22, 2000, the Examiner again asserted that "the teaching of Krishnaswamy, Huang and Focsaneanu perform the claimed invention." This assertion is incorrect because no combination of the cited references teaches or suggests each element claimed in the present invention.

The Examiner asserts that Focsaneanu discloses an apparatus which allows a remote modem and local system to communicate with each other over the WAN; including Applicant's claimed electrically interconnected converter splitting a portion of the electrical signal from the telephone to provide an audio output signal, with reference to a CODEC in Fig. 12. Although the cited Fig. 12 does not show the CODEC connected to any output at all, Focsaneanu apparently teaches connection of a raw telephone signal through an ordinary CODEC and into a data network interface, to digitize the analog signal. As described in Focsaneanu, at col. 11, lines 64-65, "the CODEC converts the analog signals to/from PCM signals (e.g. ADPCM signal)."

As known in the art, and as defined in Newton's Telecom Dictionary (11th Ed), PCM is "the most common method of encoding an analog voice signal into a digital bit stream."

Therefore, the conversion performed in a CODEC is between analog voice and digital bits. Applicant's claim 1 recites "a converter ... splitting a portion of said telephone signal ... and

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providing an audio output signal...." Anyone skilled in the art can recognize that a digital bit stream output of a PCM encoder does not teach or suggest anything about a converter "splitting a portion of said telephone signal ... and providing an audio output signal." Audio frequency signals are those which are audible to a human ear, although in this case, the audio energy of the claimed invention is in electrical form rather than directly audible acoustic waves. An audio output could, for example, be attached directly to a loudspeaker for conversion to acoustic energy. An ADPCM signal is, by definition, a digital signal, and not an analog audio signal. Additionally, one skilled in the art will appreciate that a CODEC does not result in any splitting of signals as with the claimed converter.

Furthermore, the referenced CODEC actually teaches away from the claimed invention because the audio output is next fed to "a first sound processing mechanism processing said audio output signal for transmission ... as a network audio signal." The Examiner admits that Focsaneanu fails to disclose such a processing mechanism (at page 5, lines 9-11 of Paper 11). In fact, feeding the CODEC PCM output into the recited converter would create an output having a highly unpredictable information content, and certainly not the useful "network audio signal" recited by Applicant. Therefore, the Focsaneanu arrangement, as is known in the art, does not teach or suggest any converter element as claimed by Applicant, let alone one with an equivalent input and output arrangement having the functions recited in the claims. For this reason alone, the Focsaneanu reference does not provide a proper or sufficient basis for the Examiner's rejection of any of Applicant's claims.

In response to Applicant's previous arguments on this point, in the Advisory Action, Paper 14, the Examiner indicates that the "Line Interface" of Focsaneanu, known as "Identification" in Fig. 12, and described at col. 8, lines 21-26 (related to an apparently equivalent element 238 of Fig. 8) teaches the claimed converter. The function of the "identification transceiver" is to determine whether a line signal is from a modem or from a telephone. In use, as further described at col. 10, lines 31-37, the device is initialized to expect

one of either voice or modem signals. It then switches to the other mode upon receipt of the necessary trigger, such as an analog DTMF "*" signal. All this illustrated "Line Interface" element does is operate like a toggle switch or selector for connecting the "local access" line to either the modem or a POTS & CODEC in the Access Module, under control of the "processor".

- 5 Again, the Examiner has failed to recognize that the recited element is a specific type of converter, having defined input and output characteristics that are not found in any of the cited references individually, or in any combination of the referenced art.

Furthermore, in Paper 11, page 5, the Examiner suggests that the Focsaneanu reference teaches a converter "splitting a portion of the telephone transmission signals." As described
10 above, the line signal of the cited reference is sent directly from the access line to the CODEC for purpose of encoding the signal into a digital PCM signal. Alternatively, the incoming signal is routed to the modem for conversion into serialized data, such as the standard RS232. In either case, Focsaneanu never teaches or suggests that any part of the analog signal is separated or split for any reason.

15 In an effort to rebut Applicant's arguments in the response to final rejection Paper 11, the Advisory Action, Paper 14, page 3, line 1, states that "Huang discloses a converter for splitting and converting the telephone transmission signals to audio signals (Ref. 13 of Fig. 3a)." The referenced element, as described by Huang at page 8, lines 6-10, comprises "analog trunks 14 and A/D and D/A converter pairs 15." An analog trunk (telephone circuit) is connected to the
20 A/D converter, making an analog signal into a digital signal. Clearly, a device that generates a digital signal does not teach or suggest splitting or converting a telephone signal into an audio signal. Therefore, yet again, the Examiner has failed to identify any element of the references that has a structure and functional aspects equivalent to the single element or combination of elements recited in the Applicant's rejected claims.

25 In summary, Focsaneanu fails to teach or suggest the signal splitting, fails to teach or suggest any device or method for generation of an audio output signal, and fails to teach or

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suggest the claimed audio signal converter and its function. The combination with Huang does nothing to remedy this fatal omission. Nothing in any of the Office Actions or Advisory Action has provided the necessary showing of each element recited in any of Applicant's claims. For any of these reasons alone or combined, Applicant respectfully submits that the combination of the Focsaneanu reference with the Huang reference fails to provide any basis for the rejection of Applicant's claims.

In addition, Applicant has previously noted, in the response to the final rejection, that the Examiner has failed to identify any portion of any reference with respect to the recitation of rejected claim 20 in which Applicant further defines a converter for "providing impedance matching and voltage conversion." As taught by Applicant, in the specification at page 7, lines 12-18, the conversion between the analog telephone signal and the audio signal is for connection into a "sound card" on a PC. Absent this further recited converter and conversion functions, connection of the telephone signal to the sound card would probably damage or destroy the PC, or possibly other devices on the telephone line. A converter embodied in the Motorola TCA3388, taught by Applicant in the specification at page 6, lines 28-32, includes analog amplifiers, automatic gain control, and other analog functions that would provide the recited functions of the claimed element. Nothing in Focsaneanu, Huang, or even Krishnaswamy, teaches or suggests using a similar converter between a telephone line and a sound card in a PC. Each of these references is concerned with conversion of telephone signals to digital signals, or digital signals to audio signals, but not telephone signals to audio signals, or any combination of telephone and audio signals. For this additional reason, Applicant respectfully submits that claim 20 is allowable.

Similarly, Applicant's claim 21 recites an interface machine comprising "a personal computer having a soundcard and running an audio streaming program." The Examiner's rejection in Paper 11, page 6, paragraph 8, admits that Focsaneanu fails to disclose the claimed invention, and proceeds directly to address a "second sound processing" without any regard for

the separate and distinct element in claim 21 of the necessary "PC, soundcard and audio streaming program" connected between a telephone converter and a packet network. Even in combination with the Krishnaswamy reference, or admitting (for sake of argument) that a "PC, soundcard, and audio streaming program" are known in the art, the fact remains that nothing in the prior art teaches or suggests each element of the invention in combination as claimed by Applicant. Krishnaswamy adds nothing relevant here that Huang didn't already disclose, i.e., a multimedia workstation connected to a packet network. Therefore, since no combination of these references teaches or suggests that a telephone signal can be converted to audio, plugged into the soundcard of a PC, packetized into streaming audio, and sent over a packet network to an appropriate receiver (soundcard, audio), for this additional reason claim 21 is patentable over the cited references and should have been allowed by the Examiner.

Regarding claim 23, the Final Office Action, Paper 11, is completely silent regarding which (if any) portion of the cited references would teach or suggest the recited "Ethernet connection." For this additional reason, Applicant submits that rejection of claim 23 is improper. Even if one were to admit, for sake of argument, that an Ethernet is well known in the art, there is nothing cited in any rejection in this case that further describes the apparatus of claim 19 connected to an Ethernet (or any other network). Furthermore, the Examiner has completely and improperly ignored the additional elements of claim 23 in which "said transmitted stream is addressed only to the monitoring system", and also the element in which "said output stream is addressed only to the interface machine." For each of these additional reasons, the rejection of claim 23 is improper, and claim 23 is patentable over the prior art.

The Examiner asserts (in Final Action, Paper 11 and again in Advisory Action Paper 14) that it would have been obvious to combine Focsaneanu with Huang. However, since nothing in Huang teaches or suggests any of the claimed elements for converting a telephone signal into an audio signal (which functions the Examiner incorrectly attributed to Focsaneanu discussed hereinbefore), the combination of Huang with Focsaneanu (even if one were to do so) does not

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support the rejection of any of claims 1, 5, 6, 8, 10, 12-15, 17, 19 or 23 (or any of the other dependent claims pending in the present case!) under §103(a). As already mentioned, the Examiner has mistakenly characterized the A/D converter of Huang as being a converter between telephone signals and audio signals, and because of this error, has omitted the necessary basis for
5 a rejection of the claimed element.

In the Advisory Action, Paper 14, page 3, lines 11-14, the Examiner asserts that an inventor would have been motivated to make this non-functional and substantially irrelevant combination of Huang with Focsaneanu "to reduce the cost of long distance call between the users." Since the combination would not teach or suggest each element of any claim in the
10 application, the motivation is largely irrelevant. However, to reiterate the argument made by Applicant in the response to the final Office Action, reducing the long-distance costs could have been easily accomplished by using Huang or Focsaneanu separately and independently; each using a completely different method from that claimed by Applicant.

Huang Fig. 4 discloses a "multimedia computer" to convert audio to digital, connected to
15 a digital packet network, through a "gateway computer" (converting packets to telephone signals), to a telephone network and a telephone apparatus. Clearly Huang teaches the use of the telephone company (including expensive long distance) and a packet-switched network (including shared telephone circuits with shared costs). In Huang, there is already a packet network that provides the necessary communication at "reduced costs". No further cost
20 reduction in the long distance charges is accomplished by combining Huang with anything disclosed in Focsaneanu. Similarly, Focsaneanu discloses users whose POTS conversations can be digitized and sent over a data network to other similarly equipped recipients. The best possible cost reduction has already been achieved by using the data network for telephone communication between two users, as shown in Fig. 9. There remains no cost-savings to
25 motivate the inventor to combine that invention with Huang. Because Huang and Focsaneanu disclose very different equipment, it would probably actually cost more to try to combine the two

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references in any meaningful way, and these increased costs would naturally be passed along to the subscribers.

Therefore, Applicant respectfully submits that the referenced combination would not have been motivated for the reasons given by the Examiner, since there is no need to combine references which individually resolve the problem mentioned. Therefore, absent any viable hint of a motivation, the combination does not provide the basis for the 103 rejection for this additional reason.

VIIIB. ARGUMENTS: REJECTION OF CLAIMS 4, 7, 9, 16, 18, 21 AND 22 UNDER 35 U.S.C. 103(A) (37 C.F.R. 1.192(C)(8)(IV))

With respect to claims 4, 7, 9, 16, 18, 21 and 22, the Examiner further cites the combination of Huang and Focsaneanu, in view of Krishnaswamy (USP 5867494), as the basis for a rejection under §103(a). As already stated above, the combination of Huang and Focsaneanu does not teach or suggest the invention as claimed in any of the independent claims (1, 8, or 19) upon which these further claims depend. Like Huang, Krishnaswamy does not supply the missing elements for which the Examiner relied upon Focsaneanu, including any method or apparatus for electrically splitting and converting a telephone signal into an audio signal, or any motivation for combining the cited references. Therefore, for at least the same reasons given above, each of these claims is allowable over the cited references.

Claim 4 recites an apparatus in which a telephone signal is converted to an audio output signal, processed by a first machine into a network audio signal, and received by "a sound card running on said local system and configured to run an audio streaming program." In Final Action, Paper 11, page 6, paragraph number 8, the Examiner admits that Focsaneanu fails to disclose the claimed invention, but asserts that the missing elements are disclosed in Krishnaswamy.

The Examiner specifically cites Krishnaswamy as disclosing "a sound card running on a

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local system and configured to run an audio stream program," with reference to Fig. 10, item 1050. The referenced device (PC2) 1050 appears in Fig. 10A to be connected only to the Internet. Krishnaswamy fails to add anything relevant that was not also taught in Huang; that a multimedia computer can be attached to a data network. This does not teach or suggest anything about an audio card, nor a streaming audio program. Krishnaswamy clearly has nothing to do with connecting a telephone line to anything other than a simple modem. One may infer that such an arrangement is aimed at conversion of audio signals to digital packets and back again, such as in a system for sending voice over the Internet. However, it certainly does not teach or suggest converting any portion of the telephone signals into audio signals for any reason.

Given the deficiencies of the cited Krishnaswamy, which fails to account for the elements missing from the combination of Huang and Focsaneanu, a further combination of Krishnaswamy, Huang and Focsaneanu does not disclose or suggest the present invention, contrary to the Examiner's assertions. Furthermore, the only motivation suggested by the Examiner is "to reduce long-distance rates" by communicating over the Internet. Applicant has already argued above that this is a non sequitur, and a spurious motivation. Because none of the cited references, alone or in combination, disclose or suggest Applicant's invention as recited in any of the claims, and because there is nothing to suggest any motivation to combine these references in the manner suggested by the Examiner, Applicant respectfully submits that all claims 4, 7, 9, 16, 18, 21 and 22 are allowable over the cited prior art.

VIIIC. ARGUMENTS: REJECTION OF CLAIMS 8 AND 19-23 UNDER 35 USC § 112, FIRST PARAGRAPH (37 C.F.R. 1.192(C)(8)(IV))

In response to Final Office Action, Paper 11, Applicant submitted a response that included amendments to the specification and claims, including claims 8, 19 and 20. If entered, with respect to these claims, Applicant submits that it will put the case in condition for

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allowance.

The Examiner has rejected claim 8 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way to show the inventor had possession of the claimed invention, and specifically because the recitation of "analog" is not described as part of the converter. Applicant notes that one of ordinary skill in the art is familiar with the recited Motorola Telephone Line Interface TCA3888 mentioned on page 6, lines 28-32, and full description of which was incorporated by reference. This device, and equivalent converters, inherently produces an audio output from an analog output amplifier in proportion to the telephone input signal, as would be known to one of ordinary skill in the art. Applicant has amended the specification to include this additional non-essential detail from the materials incorporated by reference, and thus no new matter has been added. Therefore, Applicant respectfully submits that the rejection should be withdrawn in view of the full specification, with the materials incorporated by reference.

Similarly, the Examiner has rejected claims 19-23 for recitation of "encoded audio data packets" not sufficiently described in the specification. For transmission of audio information over a packet network, it is well known in the art that encoding is used, such as PCM or ADPCM. Applicant submits that one of ordinary skill in the art is familiar with the cited Real Audio streaming audio product from Progressive Networks and equivalents. As described in the specification at page 10, lines 2-9, Applicant notes that there are other "off-the-shelf" audio streaming programs. In each case, as would be known by those of ordinary skill in the art, audio data (produced inside the sound card) includes information derived from digital or other sampling of the audio signal (e.g., ADPCM, CSVD). The sampled information is then further encoded into the information portions of a real-time protocol for transmission across the packet network, according to the particular streaming protocol implemented. The results of encoding audio as described for transmission on a packet network, are inherently "encoded audio data packets", i.e., digital network data packets that contain encoded audio data. Applicant certainly

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has no further obligation to disclose or explain elements of the claimed invention that are individually well known to those of ordinary skill in the art. Therefore, Applicant respectfully submits that there is proper support in the specification for the recited element, as amended.

5 **VIIID. ARGUMENTS: REJECTION OF CLAIM 19 UNDER 35 USC § 112, SECOND PARAGRAPH UNDER 35 U.S.C. 112, FIRST PARAGRAPH (37 C.F.R. 1.192(C)(8)(IV))**

10 In response to Final Office Action, Paper 11, Applicant submitted a response that included amendments to the specification and claims, including claim 19. The Examiner has chosen not to enter these amendments, based upon the reason that "the added and deleted limitation have alter[ed] the claimed invention. Therefore it requires further consideration and/or search (See attachment)."

15 Applicant respectfully submits that the non-entered amendment to claim 19 included nothing more than a mere clarification to the previously existing claim. The amendment would have amended line 15 to delete "said second interface machine" and replaced it with --said monitoring station--. When read in conjunction with the amendment to the specification at page 8, line 31, this amendment to claim 19 merely replaces the perfunctory terminology for a single element in the claim with a more pragmatic description of how the identical structure is used, and does not add or detract any structural or functional limitations.

20 Therefore, the Examiner's assertion that further consideration and/or search was necessitated is overstating the impact of the proposed amendment. A "second interface machine" must be interpreted in accord with the relevant portions of Applicant's specification. As described by Applicant, the machine may be comprised of a general purpose PC, having a suitable sound-card feature, and running a suitable streaming audio program.

25 Applicant has further amended the specification to clarify that "listening" to the communication signals between two other devices constitutes the act of "monitoring", as the term

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would be known and used by those skilled in the art. Similarly, a work position and workstation equipment at which an operator can carry out such monitoring would be known in the art as a "monitoring station."

Applicant has submitted an amendment to the specification that would clarify the circumstances under which an illustrative embodiment would be implemented, i.e., as "a monitoring station" at which a local technician can "monitor" the audio information received from the remote telephone interface. Since the specification already defined much of the environment in which the invention may be useful, and has included examples of how the invention would be used for monitoring, it should be clear to one of ordinary skill in the art that the "monitoring station" is exactly equivalent to the "second interface machine" in every functional and structural manner. Therefore, it is inappropriate to refuse entry of the clarification to the specification and claim 19 on the grounds that "further search or consideration is necessary." The amendment puts the claim in condition for allowance, and has not added anything that was not already known or understood about the recited "second interface machine."

The Examiner has rejected claims 19 and 20 under 35 U.S.C. § 112, second paragraph as being indefinite. In particular, claim 19, line 3 recites "an electrical audio signal" where the specification has previously only said "audio output signal." Applicant appreciates the Examiner's attention to this detail, and has amended the specification to more clearly describe this inherent characteristic of the audio signal output of the described converter. Entry of this amendment will put these claims in condition for allowance.

Applicant has amended claim 19 to more clearly define the invention, as requested by the Examiner, by clarifying the description of the audio input signal being converted by the converter. Similarly, Applicant has amended claim 20 to more clearly define the invention and provide antecedent basis for the recited element "said interface machine."

In the preceding amendments to the specification and claims, Applicant has not added any new matter, has not necessitated any further search or consideration, and has responded to

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each and every objection raised by the Examiner. The entry of the proposed amendment would put the claims in condition for allowance.

In view of these arguments, Applicant respectfully requests allowance of all of the claims pending in the present application.

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IX. APPENDIX: CLAIMS INVOLVED IN THE APPEAL (37 C.F.R. 1.192(c)(9))

The text of the claims involved in the appeal are:

1. An apparatus for effecting audible communication between a local system and a
5 remote system over a Wide Area Network(WAN), comprising:
a remote modem configured in said remote system and receiving telephone transmission
signals;
a converter electrically interconnected to a telephone interconnection of said remote
modem and receiving said telephone transmission signals therefrom and providing an audio
10 output signal;
an interface machine splitting a portion of said audio output signal from said converter,
said interface machine including a first sound processing mechanism processing said audio
output signal for transmission over said WAN as a network audio signal;
a second sound processing mechanism configured at said local system, receiving said
15 network audio signal and processing said network audio signal to provide a continuous audio
signal at said local system.
3. The apparatus of claim 1 wherein said interface machine is a computer and said
first sound processing mechanism is a sound card running on said computer and configured to
20 run an audio streaming program.
4. The apparatus of claim 1 wherein said second sound processing mechanism is a
sound card running on said local system and configured to run an audio streaming program.
- 25 5. The apparatus of claim 1 wherein said interface machine is a personal computer.

6. The apparatus of claim 5 wherein said first sound processing mechanism is a sound card configured to run an audio streaming program and configured to transmit said network audio signal in the form of packets addressed only to said second sound processing mechanism.

7. The apparatus of claim 1 wherein said remote modem is configured to communicate with automated systems that incorporate intelligence to gather status information.

8. A method for effecting audible communication between a local system and a remote system over a Wide Area Network (WAN), comprising the steps of:

configuring a remote communication mechanism in said remote system to receive a transmission signal;

converting said transmission signal into an analog audio output signal;

processing said analog audio output signal into packets for transmission over said WAN as a stream of audio packets;

receiving and processing said stream of audio packets to provide a continuous audio signal at said local system.

9. The method of claim 8 in which said remote communication mechanism is configured to communicate with automated systems that incorporate intelligence to gather status information and such status information is transmitted to said remote communication mechanism as a transmission signal.

10. The method of claim 8 wherein the transmission signal received by said remote communication mechanism is generated by a remote modem resident with a remote computer system.

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12. The method of claim 8 wherein said converting step involves a converter electrically interconnected to an interconnection of said remote communication mechanism to receive said transmission signals therefrom and to convert said transmission signals into said analog audio output.

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13. The method of claim 8 wherein said processing step involves an interface machine configured to receive said analog audio output signal from said converter.

14. The method of claim 13 wherein said interface machine is a personal computer.

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15. The method of claim 8 wherein said processing step involves a first sound processing mechanism used to process said analog audio output signal.

16. The method of claim 8 wherein said receiving step involves a second sound
20 processing mechanism used to process said stream of packets.

17. The method of claim 15 wherein said first sound processing mechanism is a sound card configured to run an audio streaming program.

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18. The method of claim 16 wherein said second sound processing mechanism is a sound card configured to run an audio streaming program.

19. An apparatus for communicating audio signals between a telephone interface of a remote modem and a monitoring station via a packet network comprising:

a signal converter electrically connected to said telephone interface of said remote modem and electrically converting between said telephone signal and an electrical audio signal;

an interface machine, electrically connected with said converter, for processing said electrical audio signal to generate a transmitted stream of encoded audio data packets and transmitting said stream into a packet network, and for receiving an output stream of encoded audio data from said packet network, and for processing said output stream into an electrical audio signal to said signal converter;

a monitoring station for receiving said transmitted stream of encoded audio data packets via said packet network and processing said transmitted stream to generate a continuous output audio signal, and for receiving an audio input signal and processing said signal to generate said output stream of audio data packets, and for transmitting said output stream into a packet network;

whereby an operator at said second interface machine can listen to the telephone signals of said remote modem and can generate audio signals to be converted into remote telephone signals, without having an electrical audio path from the remote modem to the operator location.

20. The apparatus of claim 19 in which said signal converter is a telephone line interface for providing impedance matching and voltage conversion between said telephone signal and an audio input and audio output of said first interface machine.

21. The apparatus of claim 19 in which said interface machine further comprises a personal computer having a soundcard and running an audio streaming program and in which said monitoring station is a computer running a streaming audio program and having a

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soundcard electrically connected to a loudspeaker.

22 The apparatus of claim 21 in which said soundcard in said monitoring station further includes a microphone interface.

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23. The apparatus of claim 19 in which said packet network further comprises an Ethernet connection, and said transmitted stream is addressed only to the monitoring system and said output stream is addressed only to the interface machine.